

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A vehicle brake system comprising:

a master cylinder having a housing defining a bore, said master cylinder further including a boost piston and a primary piston slidably disposed in said bore, said master cylinder having a boost chamber defined at least in part by said boost piston and said housing, said master cylinder having a primary chamber defined at least in part by said primary piston;

a source of pressurized fluid; and

a boost valve operable to supply fluid from said source of pressurized fluid to said boost chamber for advancing said boost piston and said primary piston in said master cylinder;

wherein said system includes a switchable travel rate feature such that said primary piston travels at a greater rate than said boost piston during normal boosted braking when said boost valve supplies fluid from said source of pressurized fluid to said boost chamber.

2. (Original) The brake system of Claim 1, wherein said boost valve is housed in said boost piston.

3. (Cancelled)

4. (Currently amended) The brake system of Claim 1, wherein said source of pressurized fluid provides a generally high pressure of fluid and said system further includes including a pressure regulator valve for providing a limiting controlled pressure level from said [[a]] source of pressurized high pressure fluid to said boost valve, wherein said pressure regulator valve is in fluid communication with said source of pressurized fluid and said boost chamber .

5. (Currently amended) The brake system of Claim 1 including a jump-in feature for providing a greater boost gain in the beginning of a braking operation, and wherein said system further includes an input mechanism including:

a housing defining a stepped bore;  
an input piston slidably disposed in said bore and adapted to be engageable with a  
brake pedal mechanism;  
a sleeve disposed in said bore, said sleeve having a bore formed therein;  
a second piston disposed in said bore between said input piston and said sleeve, said  
second piston including a passageway formed therein, said second piston having an end  
slidably disposed in said bore of said sleeve; and  
a spring biasing said second piston away from said sleeve.

6. (Currently amended) The brake system of Claim 1, wherein said master cylinder is operable to supply brake actuating pressure to first and second brake circuits, wherein said first brake circuit includes a conduit connecting said primary chamber to a first wheel brake, and wherein said second brake circuit includes a conduit connecting said boost chamber to a second wheel brake.

7. (Original) The brake system of Claim 6 including a fluid separator valve connected between said first and second brake circuits.

8. (Cancelled)

9. (Currently amended) The brake system of Claim 6[[7]] including a plurality of valves for controlling an ABS function to at least one of said wheel brakes.

10. (Cancelled)

11. (Cancelled)

12. (New) The brake system of Claim 3, wherein upon a loss of pressure in said boost chamber, said master cylinder is adapted to provide manual push through operation such that said boost piston operatively connects with said primary piston such that said boost piston and said primary piston will travel at the same rate.

13. (New) The brake system of Claim 3, wherein said boost piston and said primary piston define different effective hydraulic areas such that said effective hydraulic area of said boost piston is greater than said primary piston.

14. (New) The brake system of Claim 13, wherein said master cylinder includes an intermediate chamber generally defined at least in part by said boost piston and said primary piston.

15. (New) The brake system of Claim 14, further including a reservoir in selective communication with said intermediate chamber via a valve, wherein operation of said valve selectively permits or prevents fluid from flowing between said intermediate chamber and said reservoir.

16. (New) The brake system of Claim 15, wherein said valve is pilot operated valve responsive to pressure differential between the fluid from said reservoir and said boost chamber.

17. (New) The brake system of Claim 4, wherein said regulator valve includes:  
a housing defining a bore;  
a plunger slidably disposed in said bore, wherein said plunger generally defines first and second chamber, said first chamber in communication with a high pressure chamber of said boost valve, said second chamber is in fluid communication with said boost chamber;  
a valve seat formed in said housing;  
a valve member selectively engaged with said valve seat; and

a pin extending from said plunger and operable to lift said valve member from said valve seat during movement of said plunger.

18. (New) The brake system of Claim 17, wherein said regulator valve further includes a spring biasing said plunger to reduce the volume and increase the pressure of the fluid within said first chamber.

19. (New) The brake system of Claim 5, wherein said input mechanism is housed in said boost piston.

20. (New) A vehicle brake system comprising:

a master cylinder having a housing defining a bore, said master cylinder further including a boost piston and a primary piston slidably disposed in said bore, said master cylinder having a boost chamber defined at least in part by said boost piston and said housing, said master cylinder having a primary chamber defined at least in part by said primary piston;

a source of pressurized fluid providing a generally high pressure of fluid;

a boost valve operable to supply fluid from said source of pressurized fluid to said boost chamber for advancing said boost piston and said primary piston in said master cylinder; and

a pressure regulator valve for providing a limiting controlled pressure level from said source of pressurized fluid to said boost valve, wherein said pressure regulator valve is in fluid communication with said source of pressurized fluid and said boost chamber.

21. (New) The brake system of Claim 20, wherein said boost valve is housed in said boost piston.

22. (New) A vehicle brake system comprising:

a master cylinder having a housing defining a bore, said master cylinder further including a boost piston and a primary piston slidably disposed in said bore, said master cylinder having a boost chamber defined at least in part by said boost piston and said housing, said master cylinder having a primary chamber defined at least in part by said primary piston;

a source of pressurized fluid; and

a boost valve operable to supply fluid from said source of pressurized fluid to said boost chamber for advancing said boost piston and said primary piston in said master cylinder;

an input mechanism for providing a greater boost gain in the beginning of a braking operation, said input mechanism including:

a housing defining a stepped bore;

an input piston slidably disposed in said bore and adapted to be engageable with a brake pedal mechanism;

a sleeve disposed in said bore, said sleeve having a bore formed therein;

a second piston disposed in said bore between said input piston and said sleeve, said second piston including a passageway formed therein, said second piston having an end slidably disposed in said bore of said sleeve; and

a spring biasing said second piston away from said sleeve.

23. (New) The brake system of Claim 20, wherein said boost valve is housed in said boost piston.